Level 3 Update

Gordon Watts

6-12-97

Upgrade Online Meeting

- SNTY

- Command Libraries

- COOR/L3 Interface

- Level 3 Filters Interface Document

You can find all of this talk on WWW:
http://d0sgi0.fnal.gov/~gwatts/talks/

SNTY and Command Classes

A version of SNTY is one of our first projects:

- Plug into current system
- Have the hardware at Brown in prototype form
  - Adaptor board
- Have talked to MPMs and VBDs
- Have responded to VME interrupts
  - Further debugging needed for this
- A multithreaded skeleton of SNTY has been written.
- Needs an interface to the outside world.

$\rightarrow$ Command Classes

Command Classes

- First presented last week.
- Lots of good suggestions
  - Batches of commands. Send many commands in one TCP/IP transaction
  - Open connections.

This will mean some changes to current code which are driven by two things:

- TCP/IP may not be thread safe on all platforms
- Try to avoid one thread per connection

Command Classes

- Possible DØIP changes:
  - The ability to wait on a number of connections for input at once
    * This is akin to the *seek* routine in UNIX/NT.
    * Hey – is the seek routine thread safe?
- Changes to the organization of the command classes
  - A Command Queue instead of a connection queue.
    * Side benefit: Multiple input networks to one command processor.
  - Context object.
    * Holds info about connection.
    * Ex: locking out others from changing muon system.

Command Classes

Have a preliminary redesign

- Does not address a batched command list

  – DØIP level? (prefer not)
  – Command class level
  – Command level.

- Physical linkage reduction makes waiting on connections code ugly.

  – Have a list of connections to wait for input
  – Each protocol (TCP/IP, named pipes, etc.) has different wait style
    * Named pipes: mutex multiple wait
    * TCP/IP: select function
  – Command processor has no clue what protocol each `connection_conversation` is.

- A week away from fixing this stuff.

COOR/L3 Interface

We have made lots of progress with this (Scott and us).

- To the level of specifying Level 3 commands, and their syntax.

- Reply information is a little vague right now.

- Scott will have say more next

- Dummy interface program seems like a great test of the command classes.

- Web pages:

http://www-d0.fnal.gov/~gwatts/l3_upgrade/

Level 3 Filters Interface Document

This puppy is due on June 30th.

- Working with Level 3 Filters group (Dan and Amber).
- I have a private outline
  - Code and Library management
  - Errors and log files
  - Script runner
    * Responsible for moving events through l3 tools/filters
  - Monitor Information
  - Trigger Decision
  - Event Model
  - Argument passing between tools
  - Framework
  - Special Filter Tools